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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/975,619	10/11/2001	Takayuki Mito	MITO ET AL-2	8375

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EXAMINER
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BOLDEN, ELIZABETH A

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 12/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/975,619

Applicant(s)

MITO ET AL.

Examiner

Elizabeth A. Bolden

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☒ Claim(s) 1 and 9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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### **DETAILED ACTION**

Any rejections and or objections, made in the previous Office Action, and not repeated below, are hereby withdrawn.

#### ***Claim Objections***

Claims 1 and 9 are objected to because of the following informalities: missing punctuation.

Claim 1 recites the limitation "0% to 10% by mass of at least one selected from the group consisting of CaO, MgO, SrO and BaO," there should be an additional comma following SrO.

Claim 9 recites the limitation "0% to 24% by mass of at least one selected from the group consisting of CaO within a range of 8% to 15% by mass, MgO, SrO and BaO," there should be an additional comma following SrO.

Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9 recites the limitation "0% to 24% by mass of at least one selected from the group consisting of CaO within a range of 8% to 15% by mass, MgO, SrO and BaO," These two ranges

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within this claim render this claim to be indefinite. This limitation can be interpreted in two different ways; the first interpretation is where the alkaline earth component is completely optional at 0%, yet when CaO is present it is contained in amount of 8-15%, the second interpretation is where the alkaline earth component is not optional since 8-15 % of CaO is required in the glass composition.

For the purposes of examination, this claim has been examined in view of the first interpretation where the alkaline earth component is optional.

If the Applicants mean to require CaO as a component of the glass, the Examiner recommends amending the limitation so that the lower limit of the alkaline earth content matches the required amount, for instance, "8% to 24% by mass of at least one selected from the group consisting of Ca, MgO, SrO, and BaO, wherein 8% to 15% by mass is CaO".

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morita et al., Japanese Patent Publication, JP 2000-223229, in view of Nishioka et al. Japanese Patent Publication 11-162361.

This rejection is over the Japanese Patent Publication of Morita et al. because this reference qualifies as prior art under 35 U.S.C. 102(b). However, for convenience, the column

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and line numbers of the English language equivalent US Patent No. 6,309,992 will be cited below.

A machine-generated translation of Nishioka et al. accompanied the previous action. In reciting this rejection, the examiner will cite this translation.

Morita et al. teach glass compositions for barrier ribs having overlapping ranges of components with instant claims 1-12. See abstract, column 4, lines 40-57, and column 5, lines 19-27. Overlapping ranges have been held to establish *prima facie* obviousness. See MPEP 2144.05. Morita et al. teach a glass composition having overlapping ranges of components with instant claims 1, 5, and 9. See column 4, lines 40-57. Moreover, Morita et al. teach Examples 1-5, which meet the glass composition of claim 1, Examples 8, 9, and 11, which meet the glass composition of claim 5, and Example 10, which meets the glass composition of claim 9. See Tables 1-3. Morita et al. teach the addition of a filler powder to the glass, which appear to have overlapping mass ratio ranges with instant claims 4, 8, and 12. See column 5, lines 23-26.

While Morita et al. teach the use of a filler powder and glass colorants, Morita et al. differs from the instant claims by not teaching the specific composition of the filler powder. Furthermore, Morita et al. differs from the instant claims by not specifically teaching  $\text{TiO}_2$  as a filler or colorant.

Nishioka et al. teach a composition used to form the partitioning walls i.e. barrier ribs or septum, of a plasma display panel where 1-40 weight parts are an inorganic filler and 100 weight parts of a glass. See abstract of Nishioka et al. Nishioka et al. further teach the inorganic filler comprises two or more kinds of  $\text{SiO}_2$  including fused silica, alpha-quartz, and cristobalite, a component to whiten the septum such as  $\text{TiO}_2$ , and other mineral constituents such as  $\text{Al}_2\text{O}_3$ . See

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paragraphs [0029-0031]. The mixture of two or more kinds of silicas controls the coefficient of thermal expansion and has desirable properties. See paragraphs [0013] and [0014]. The  $\text{TiO}_2$  additions whiten the barrier rib. See paragraphs [0030] and [0031]. The  $\text{Al}_2\text{O}_3$  additions suppressed sagging of the barrier rib.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed a filler comprising two types of silica, alumina, and titania, in the barrier rib of Morita et al. as suggested by Nishioka et al. because the resultant barrier rib would have an improved coefficient of thermal expansion and dielectric properties.

Moreover, it would have been obvious to one of ordinary skill in the art at the time the inventions was made to have added  $\text{TiO}_2$  and  $\text{Al}_2\text{O}_3$  to the barrier rib of Morita et al. as suggested by Nishioka et al. because the resultant barrier rib would be white and not sag.

As to the amount of  $\text{Al}_2\text{O}_3$  recited in the claims, Example 29 of Nishioka et al. shows that the inorganic filler contains 12 weight parts fused silica, 21 weight parts alpha-quartz, and  $\text{Al}_2\text{O}_3$ . See Table 1 of Nishioka et al. If the amount of  $\text{Al}_2\text{O}_3$  is at least 3.75 weight parts then the total weight parts of inorganic filler is 36.75 weight parts based on 100 weight parts glass. The inorganic filler would have a composition of 32.7 weight percent fused silica, 57.1 weight percent alpha-quartz, and 10.2 weight percent  $\text{Al}_2\text{O}_3$ .

Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al., U.S. Patent 6,010,973, in view of Nishioka et al. Japanese Patent Publication 11-162361.

A machine-generated translation of Nishioka et al. accompanied the previous action. In reciting this rejection, the examiner will cite this translation.

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Watanabe et al. teach glass compositions having overlapping ranges of components with instant claims 1-12. See abstract, column 4, lines 44-59, and column 5, lines 2-5, 9-12, and 25-32. Overlapping ranges have been held to establish *prima facie* obviousness. See MPEP 2144.05. Watanabe et al. teach a glass composition having overlapping ranges of components with instant claims 1, 5, and 9. See column 4, lines 44-59. Moreover, Watanabe et al. teach Sample A, which meets the glass composition of claim 1 and Sample C, which meets the glass composition of claim 9. See Table 1. Watanabe et al. teach the addition of a filler powder to the glass, which appear to have overlapping mass ratio ranges with instant claims 4, 8, and 12. See abstract, column 5, lines 2-5, 10-12, 27-29, 46-47, and 63-65. Watanabe et al. teach the same components as fillers as claims 1-3, 5-7, and 9-11. See column 5, lines 30-32.

Watanabe et al. differs from the claims by not teaching the specific composition of the silica powder.

Nishioka et al. teach a composition used to form the partitioning walls i.e. barrier ribs or septum, of a plasma display panel where 1-40 weight parts are an inorganic filler and 100 weight parts of a glass. See abstract of Nishioka et al. Nishioka et al. further teach the inorganic filler comprises two or more kinds of SiO<sub>2</sub> including fused silica, alpha-quartz, and cristobalite, a component to whiten the septum such as TiO<sub>2</sub>, and other mineral constituents such as Al<sub>2</sub>O<sub>3</sub>. See paragraphs [0029-0031]. The mixture of two or more kinds of silicas controls the coefficient of thermal expansion and has desirable properties. See paragraphs [0013] and [0014]. The TiO<sub>2</sub> additions whiten the barrier rib. See paragraphs [0030] and [0031]. The Al<sub>2</sub>O<sub>3</sub> additions suppressed sagging of the barrier rib.

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Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed two or more kinds of silica in the plasma display composition of Watanabe et al. as suggested by Nishioka et al. because the resultant barrier rib would have an improved coefficient of thermal expansion and dielectric properties.

Moreover, it would have been obvious to one of ordinary skill in the art at the time the inventions was made to have added  $\text{TiO}_2$  and  $\text{Al}_2\text{O}_3$  to the plasma display composition of Watanabe et al. as suggested by Nishioka et al. because the resultant barrier rib would be white and not sag.

As to the amount of  $\text{Al}_2\text{O}_3$  recited in the claims, Example 29 of Nishioka et al. shows that the inorganic filler contains 12 weight parts fused silica, 21 weight parts alpha-quartz, and  $\text{Al}_2\text{O}_3$ . See Table 1 of Nishioka et al. If the amount of  $\text{Al}_2\text{O}_3$  is at least 3.75 weight parts then the total weight parts of inorganic filler is 36.75 weight parts based on 100 weight parts glass. The inorganic filler would have a composition of 32.7 weight percent fused silica, 57.1 weight percent alpha-quartz, and 10.2 weight percent  $\text{Al}_2\text{O}_3$ .

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al., U.S. Patent 5,674,634, in view of Nishioka et al. Japanese Patent Publication 11-162361.

A machine-generated translation of Nishioka et al. accompanied the previous action. In reciting this rejection, the examiner will cite this translation.

Wang et al. teach glass compositions for barrier ribs having overlapping ranges of components with instant claims 1-4. See Abstract, column 2, lines 30-48, column 5, lines 12-15, column 5, line 65 to column 6, line 5, column 6, lines 15-22, and column 11, lines 56-65.



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Overlapping ranges have been held to establish *prima facie* obviousness. See MPEP 2144.05.

Wang et al. teach a glass composition having overlapping ranges of components with instant claim 1. See column 11, lines 56-65. Wang et al. teach the addition of a filler powder to the glass having overlapping mass ratio ranges with instant claim 4. See column 5, lines 12-14.

Wang et al. teach the same components as fillers as claims 1-3. See column 5, line 65 to column 6, line 5 and column 6, lines 15-22.

While Wang et al. teach the use of refractory oxides, refractory pigments, and fillers such as  $\text{Al}_2\text{O}_3$ , alpha quartz, fused silica as, Wang et al. differs from the instant claims by not teaching the specific composition of the filler powder. Furthermore, Wang et al. differs from the instant claims by not specifically teaching  $\text{TiO}_2$  as a refractory oxide, filler, or refractory pigment.

Nishioka et al. teach a composition used to form the partitioning walls i.e. barrier ribs or septum, of a plasma display panel where 1-40 weight parts are an inorganic filler and 100 weight parts of a glass. See abstract of Nishioka et al. Nishioka et al. further teach the inorganic filler comprises two or more kinds of  $\text{SiO}_2$  including fused silica, alpha-quartz, and cristobalite, a component to whiten the septum such as  $\text{TiO}_2$ , and other mineral constituents such as  $\text{Al}_2\text{O}_3$ . See paragraphs [0029-0031]. The mixture of two or more kinds of silicas controls the coefficient of thermal expansion and has desirable properties. See paragraphs [0013] and [0014]. The  $\text{TiO}_2$  additions whiten the barrier rib. See paragraphs [0030] and [0031]. The  $\text{Al}_2\text{O}_3$  additions suppressed sagging of the barrier rib.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed a filler comprising two types of silica, alumina, and

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titania, in the barrier rib of Wang et al. as suggested by Nishioka et al. because the resultant barrier rib would have an improved coefficient of thermal expansion and dielectric properties.

Moreover, it would have been obvious to one of ordinary skill in the art at the time the inventions was made to have added  $\text{TiO}_2$  and  $\text{Al}_2\text{O}_3$  to the barrier rib of Wang et al. as suggested by Nishioka et al. because the resultant barrier rib would be white and not sag.

As to the amount of  $\text{Al}_2\text{O}_3$  recited in the claims, Example 29 of Nishioka et al. shows that the inorganic filler contains 12 weight parts fused silica, 21 weight parts alpha-quartz, and  $\text{Al}_2\text{O}_3$ . See Table 1 of Nishioka et al. If the amount of  $\text{Al}_2\text{O}_3$  is at least 3.75 weight parts then the total weight parts of inorganic filler is 36.75 weight parts based on 100 weight parts glass. The inorganic filler would have a composition of 32.7 weight percent fused silica, 57.1 weight percent alpha-quartz, and 10.2 weight percent  $\text{Al}_2\text{O}_3$ .

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 5-8 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5 and 11 of U.S. Patent No. 6,589,894 in view of

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Nishioka et al., Japanese Patent Publication 11-162361. U.S. Patent 6,589,894 in view of Nishioka et al. has overlapping ranges of components with instant claims 5-8. Overlapping ranges have been held to establish *prima facie* obviousness. See MPEP 2144.05.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection. Applicants' arguments that pertain to the new rejections are addressed below.

### ***Conclusion***

The additional references cited on the 892 have been cited as art of interest since they are cumulative to or less than the art relied upon in the rejections above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth A. Bolden whose telephone number is 703-305-0124. The examiner can normally be reached on 8:30am to 6:00 pm with alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark L. Bell can be reached on 703-308-3823. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

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After the move to the new USPTO headquarters in Alexandria, Virginia, tentatively scheduled for the week of December 22, 2003, the examiner's new phone number will be (571) 272-1363 and Mark Bell's new phone number will be (571) 272-1362.

EAB  
December 13, 2003



DAVID SAMPLE  
PRIMARY EXAMINER